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May 11, 2011

Mr. Steve Faryan  
On-Scene Coordinator  
United States Environmental Protection Agency, Region V  
77 Jackson Boulevard, SE-5J  
Chicago, Illinois 60604

**Subject: Proposed Barrier Layer to Address Remaining Lead Contamination  
at Markham Dump Site  
Markham, Cook County, Illinois  
Technical Direction Document No.: S05-0001-1103-032  
Document Control No.: 1421-2F-AMWW  
Identification No.: B5WK  
Work Order No.: 20405.012.001.1421.00**

Dear Mr. Faryan:

The Markham Dump Site consists of lead-contaminated soil (see attached map), which was the location for battery cracking activities while the site was still being used as an active dump. Broken battery casings were observed throughout the area. The Weston Solutions, Inc. (WESTON®) Superfund Technical Assistance and Response Team (START) conducted a site assessment of the area, which included collection of several soil samples for lead analysis and the screening of lead with an X-ray fluorescence (XRF) by the United States Environmental Protection Agency (U.S. EPA) Field Environmental Decision Support (FIELDS) team. Total lead concentrations were determined through sampling to range from 2,800 milligrams per kilogram (mg/kg) to as high as 10,000 mg/kg. It was determined that a removal action was necessary.

The removal action began on Monday April 11, 2011. The Emergency and Rapid Response Services (ERRS) contractor mobilized an excavator to remove lead contaminated soil at the site (see attached map) down to the cleanup level of 800 mg/kg. Confirmation screening was done with the XRF prior to confirmation sampling. At approximately 18" below the ground surface, perched groundwater was encountered. Due to the presence of a significant quantity of groundwater in the excavation, continuation of excavation did not seem to be cost effective because of costs associated with treating and disposing potentially contaminated water. Therefore, U.S. EPA decided to continue to remove soil down to this depth throughout the remaining portion of site that had lead contamination. The concentration of lead in the soils of much of the excavated areas continued to exceed the cleanup goal of 800 mg/kg. Based on the conditions observed at the site during excavation, the U.S. EPA has decided to mitigate the risk of direct contact with lead contaminated soil. Additional contaminant removal below the water table surface may be considered by the Village of Markham when they start the Phase II of the ongoing activities at the site.



Mr. Steve Faryan  
U.S. EPA

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Markham Dump Removal Action  
May 11, 2011

In order to reduce the risk of direct contact, the U. S. EPA is suggesting the following regarding a barrier placement over the excavation areas at the Markham Dump Site:

- The bottom layer of the barrier will be a marker layer that will be utilized to differentiate the barrier layer and the lead contaminated soil exceeding 800 mg/kg. This marker layer will be placed directly on top of the excavation area.
- The marker layer could be constructed using materials such as geotextile, plastic snow fence, or other permanent, visible material. The marker layer will caution people excavating in the area that there is potentially high risk soil material below it.
- On top of the marker layer appropriate clean fill material will be placed. The source of the fill material will be tested for contaminants. Clean fill could consist of crushed limestone, silt, or native clean soil material that would act as a direct contact barrier and filter for any lead contaminated fines that may be in the groundwater if the level rises due to precipitation or flooding. Washed, permeable gravel will not be used in the barrier.

A restrictive covenant and institutional controls will be placed on the land title to address the remaining lead contaminated soil at the site.

If you have any questions or comments regarding this report, please contact me at (312) 424-3300.

Very truly yours,  
Weston Solutions, Inc.

A handwritten signature in black ink, appearing to read "Lisa Graczyk".

Lisa Graczyk  
WESTON START Project Manager

Attachment:  
Figure

cc: WESTON START DCN File

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**ATTACHMENT  
FIGURE**

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# Markham Drum Site

